

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number  
**WO 2005/061408 A1**

(51) International Patent Classification<sup>7</sup>: **C04B 18/14**,  
C02F 1/42

7306 (AU). FAUX, Daniel [AU/AU]; 32 Bracher Street,  
Wandall Rockhampton, QLD 4700 (AU).

(21) International Application Number:  
PCT/AU2004/001826

(74) Agent: SPRUSON & FERGUSON; GPO BOX 3898,  
Sydney, NSW 2001 (AU).

(22) International Filing Date:  
24 December 2004 (24.12.2004)

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003907205 24 December 2003 (24.12.2003) AU  
2004905629 29 September 2004 (29.09.2004) AU

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): MT  
ASPIRING GEOCHEMISTRY CONSULTANTS PTY  
LTD [AU/AU]; 30 Oakley Avenue, East Lismore, NSW  
2480 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CLARK, Malcolm,  
William [AU/AU]; 7/85-87 Wyrallah Road, Lismore,  
NSW 2480 (AU). DAVIES-MCCONCHIE, Fiona, Gaye  
[AU/AU]; 14 Windsor Court, Goonellabah, NSW 2480  
(AU). MCCONCHIE, David [AU/AU]; 14 Windsor  
Court, Goonellabah, NSW 2480 (AU). MUNRO, Leon  
[AU/AU]; 152 Devils Gate Dam Road, Barrington, TAS

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: POROUS PARTICULATE MATERIAL FOR FLUID TREATMENT, CEMENTITIOUS COMPOSITION AND  
METHOD OF MANUFACTURE THEREOF

(57) Abstract: A porous particulate material for treating a fluid containing a contaminant is disclosed. The particulate material comprises a cementitious matrix or binder and treated bauxite refinery residue or red mud. At least a portion of the pores in the particulate material is open cell or interconnected pores. The invention also relates to the use of a reactive permeable barrier comprising porous material, for treating a contaminated fluid. Also disclosed is a method for producing porous particulate material for treating a contaminated fluid and a method for treating a contaminated fluid, in which the porous material is used. The invention furthermore relates to a cementitious composition comprising partially neutralised red mud and cement, wherein the partially neutralised red mud has been pre-treated by contacting it with water having a total hardness supplied by calcium, magnesium or a combination thereof, of at least 3.5 millimoles per litre calcium carbonate equivalent. The cementitious composition is useful as a building and construction material.

WO 2005/061408 A1